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United States General Accounting Office

Report to Congressional Committees

September 1999

# DEFENSE ACQUISITIONS

## Evaluation of the Navy's 1999 Naval Surface Fire Support Assessment



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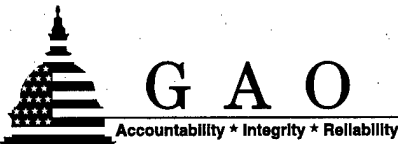


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United States General Accounting Office  
Washington, D.C. 20548

National Security and  
International Affairs Division

B-282966

September 14, 1999

The Honorable John Warner, Chairman  
The Honorable Carl Levin, Ranking Minority Member  
Committee on Armed Services  
United States Senate

The Honorable Floyd Spence, Chairman  
The Honorable Ike Skelton, Ranking Minority Member  
Committee on Armed Services  
House of Representatives

This is our final report to you on naval surface fire-support (NSFS) issues required by section 1015 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999. In the first report,<sup>1</sup> we assessed the readiness of the remaining Iowa class battleships and their associated logistic support structure. In our second report,<sup>2</sup> we examined the Navy's plans and costs for modernizing its NSFS capabilities. This letter provides our analysis of the Navy's assessment of the short-term and long-term costs associated with alternative methods for executing the naval surface fire support mission, including the alternative of reactivating two battleships. The assessment, entitled Naval Surface Fire-Support Capabilities, was provided to Congress in a March 1999 report.

## Results in Brief

The Navy's assessment was limited to a comparison of two alternatives—reactivation of battleships and its current program of developing an improved gun and munition for certain existing and future surface ships. Neither alternative will meet Marine Corps naval surface fire support requirements. The assessment showed that battleships have significantly greater firepower but less range than the destroyers and cruisers. It also showed the costs of manning the battleships to be significantly higher than both the destroyers and cruisers. We found that the costs and capabilities data presented in the assessment were derived from actual information

<sup>1</sup>Force Structure: Navy Is Complying with Battleship Readiness Requirements (GAO/NSIAD-99-62, Apr. 12, 1999).

<sup>2</sup>Defense Acquisitions: Naval Surface Fire Support Program Plans and Costs (GAO/NSIAD-99-91, June 11, 1999).

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that was available on these ships. Since neither alternative will meet Marine Corps naval surface fire support requirements, the assessment would have been more valuable if it also compared the cost of upgrading the battleships with capabilities necessary to meet requirements with the Navy's current plans to meet these requirements.

The Navy does not intend to reactivate the battleships because they do not meet naval surface fire support requirements and have high operating costs and large crews. It said that any modernization alterations to the battleships would be driven by the missions that could be assigned to them and would require further evaluation to determine their cost and schedule. An official responsible for ship programs said that the Navy chose not to conduct such an evaluation because it would be time consuming and costly.

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## Background

As we reported in 1997,<sup>3</sup> the Navy has had no credible surface fire-support capability since it retired its last four Iowa class battleships in 1992. It does not intend to reactivate battleships because the munitions fired by their 16-inch guns do not meet Marine Corps requirements for range and accuracy. It also cites the high cost of manning and operating battleships and their age and uniqueness as factors arguing against their reactivation. Each battleship requires a crew of about 1,500, whereas modern cruisers and destroyers require crews of only 340 and 295, respectively. Although the Navy does not intend to reactivate them, it is maintaining two battleships—*U.S.S. Iowa* and *U.S.S. Wisconsin*—in good condition on the Naval Vessel Register, as required by law.

The Navy is executing a two-phase plan to develop modern NSFS capabilities. In the first phase, it developed a 5-inch, 62 caliber gun and it is developing the associated guided munitions to engage targets between 41 and 63 nautical miles. It also plans to modify its Standard Missile for land attack that will have a range of about 150 nautical miles. These weapons, and a mission planning system to control their use, are to be installed on 27 newly constructed Arleigh Burke class destroyers between fiscal year 2001 and 2009 and 22 Ticonderoga class cruisers selected for modernization between fiscal year 2004 and 2009. However, these weapons are not intended or expected to satisfy the full range of the Marine Corps NSFS requirements. The second phase, to be completed by 2020, is

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<sup>3</sup>Program Status: Naval Surface Fire Support (GAO/NSIAD-97-179R, Aug. 6, 1997).

intended to fully meet Marine Corps requirements. It includes developing a longer-range, larger caliber advanced gun and associated munitions and an advanced land attack missile for the DD-21 class land attack destroyer. The Navy plans to accept delivery of 32 DD-21s between 2008 and 2020. The Marine Corps is willing to accept the risks associated with the current lack of NSFS capability and supports the Navy modernization plans.

## Navy Assessment

The Navy compared its planned NSFS development program to the cost of reactivating two battleships with the same capabilities they had at the time of their last inactivation, but without the Tomahawk missile launch capability. During the 1980s, the Navy spent about \$1.7 billion to modernize and reactivate its four *Iowa* class battleships. During their reactivation, each of these ships was fitted with 16 Harpoon and 32 Tomahawk missile launchers, along with updated communications, fire control, and target acquisition systems. The estimated cost cited for reactivating the *U.S.S. Wisconsin* was \$209.4 million and for the *U.S.S. Iowa*, was \$221.3 million, including repair of the damaged turret.<sup>4</sup> To accomplish the reactivation, the Navy estimated 14 months for industrial support and 3 to 6 months for modernization and training on and certification of newly installed equipment. The estimated cost of reactivating the *U.S.S. Wisconsin* was based on the actual cost to reactivate the *U.S.S. New Jersey* battleship in the 1980s, less the modernization costs that occurred during its reactivation, and escalating the figure to fiscal year 1999 dollars. The estimated cost of reactivating the *U.S.S. Iowa* is the same as the *U.S.S. Wisconsin* plus \$12 to \$14 million to repair the damage to the number 2 turret.

The Navy compared capabilities, crew size, and annual operating costs of battleships to those of Arleigh Burke class destroyers and Ticonderoga class cruisers that are to be equipped with the improved 5-inch guns and extended range guided munitions. The comparison addressed the number of guns, their fire rate, and range. For example, it showed that each battleship has nine 16-inch guns compared to one 5-inch gun on the destroyers and two 5-inch guns on the cruisers. The data showed that battleships have significantly greater firepower but less range than the destroyers and cruisers, assuming that the new 5-inch guns and munitions

<sup>4</sup> The center 16-inch gun of the *U.S.S. Iowa*'s turret II was rendered inoperable by an explosion in April 1989.

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will perform as planned. The data presented were consistent with pre-existing published data on these ships.

The Navy also compared the crew size and annual operating costs. It showed the manning costs of the battleships to be significantly higher than both the destroyers and cruisers. The crew size was based on the officer and enlisted manpower requirements document and the costs were estimated using the programming rates developed for the fiscal year 2002 budget. Fiscal year 2002 was chosen because that year would be the earliest a battleship could be reactivated.

The Navy concluded that the variety of weapons currently being planned and developed will provide the soundest and most cost-effective strategy for improving its surface fire support capability and that reactivating the battleships was neither cost-effective nor a sound strategy. Since the new 5-inch guns and munitions and the battleships, as currently configured, will not meet Marine Corps naval surface fire support requirements, the assessment would have been more valuable if it included a comparison of providing the battleships with capabilities necessary to meet requirements with the Navy's planned development program to meet these requirements. The Navy said that battleship modernization alterations would require further evaluation to determine additional costs and schedule impacts. At the same time, the alterations would need to fit the mission given to the battleship. An official responsible for ship programs said that the Navy chose not to conduct such an evaluation because it would be costly and take at least a year to complete.

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## Agency Comments and Our Evaluation

DOD partially concurred with a draft of this report (see app. I) and noted that although neither the first phase of the Navy's two-phase naval surface fire support program nor the battleship alternative will fully meet the Marine Corps' NSFS requirements, the second phase is intended to fully meet requirements. This information was already provided in the background section of the report.

DOD also said we need to balance our statement that battleships have significantly greater firepower than cruisers and destroyers by noting that there are only 2 battleships on the Naval Vessel Register compared to 22 Aegis cruisers and 27 Aegis destroyers in the active force slated for land attack improvements. This information is also provided in our background section.

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Finally, DOD said battleship reactivation costs presented in our report did not include modernization costs that would be significant. Our report states that the activation costs do not include modernization costs. However, we continue to believe that the assessment would have been more valuable if it compared the cost of upgrading the battleships with capabilities necessary to meet requirements with the Navy's current plans to meet these requirements.

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## Scope and Methodology

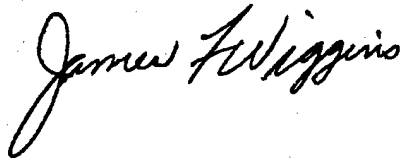
To provide our analysis, we reviewed the Navy's March 1999 assessment and the data and information used in its preparation. We held discussions with officials of the Office of the Assistant Secretary of the Navy for Research, Development, and Acquisition; the Surface Warfare and Expeditionary Warfare Divisions of the Office of the Chief of Naval Operations. We performed our review in June and July 1999 in accordance with generally accepted government auditing standards.

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We are sending copies of this report to Senator Ted Stevens, Chairman, and Senator Robert C. Byrd, Ranking Minority Member, Senate Committee on Appropriations; Representative C. W. Bill Young, Chairman, and Representative David R. Obey, Ranking Minority Member, House Committee on Appropriations; the Honorable William Cohen, Secretary of Defense; the Honorable William J. Lynn, Under Secretary of Defense (Comptroller); the Honorable Jacob Lew, Director, Office of Management and Budget; the Honorable Louis Caldera, Secretary of the Army; the Honorable Richard Danzig, Secretary of the Navy; and General James L. Jones, Commandant of the Marine Corps. Copies will be made available to others upon request.

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Please contact me at (202) 512-4841 or Mr. Richard Price at (202) 512-3630, if you or your staff have any questions concerning this report. Key contributors to this report were Anton Blieberger and Martha Dey.

A handwritten signature in cursive script that reads "James F. Wiggins". The signature is written in black ink and is positioned above the printed name and title.

James F. Wiggins  
Associate Director  
Defense Acquisition Issues





# Comments From the Department of Defense



## OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON DC 20301-3000

25 AUG 1999

Mr. James F. Wiggins  
Associate Director, Defense Acquisition Issues  
National Security and International  
Affairs Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Wiggins:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report "DEFENSE ACQUISITIONS: Evaluation of the Navy's 1999 Naval Surface Fire Support Assessment" dated August 5, 1999 (GAO Code 707427/OSD Case 1872).

The Department has reviewed the report and partially concurs. The Department believes the GAO's general statement that the Navy's plans will not meet the Marine Corps' naval surface fire support requirements requires amplification. Neither the first phase of the Navy's two-phase Naval Surface Fire Support (NSFS) program nor the battleship alternative will fully meet the Marine Corps' NSFS requirements. However, a modified 5-inch gun and associated guided munitions, land-attack missiles, and a mission planning system for Aegis cruisers and destroyers will provide a near-term NSFS capability. And, as you observed in GAO Report GAO/NSIAD-99-91 of June 1999, "Naval Surface Fire Support Program Plans and Costs," weapons developed during the second phase of the Navy's modernization program are intended to fully meet the Marine Corps' NSFS requirements.

Further, while the draft report observes that battleships have significantly greater firepower (albeit with less range) than will cruisers and destroyers, the report fails to balance that observation by noting that the Navy retains only two battleships on the Naval Vessel Register, compared to 22 Aegis cruisers and 27 Aegis destroyers in the active force slated for land-attack improvements. Finally, from a cost standpoint, the \$209.4 million and \$221.3 million required to reactivate the USS Wisconsin and USS Iowa respectively, do not include any modernization costs. Those costs would be significant.



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Appendix I  
Comments From the Department of Defense

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The Department appreciates the opportunity to comment on the draft report.

Sincerely,



George R. Schneider  
Director  
Strategic and Tactical Systems

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